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Glossary of Immunology

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Accessory cell: Cell required for, but not actually mediating, a specific immune response. Often used to describe antigen-presenting cells (APC; see below).

Affinity: A measure of the binding constant of a single antigen combining site with a monovalent antigenic determinant.

Agglutination: The aggregation of particulate antigen by antibodies. Agglutination applies to red blood cells as well as to bacteria and inert particles covered with antigen.

Allelic: Relating to one of a series of two or more alternate forms of a gene that occupy the same position or locus on a specific chromosome.

Allelic exclusion: The ability of heterozygous lymphoid cells to produce only one allelic form of antigen-specific receptor when they have the genetic endowment to produce both. Genes other than those for the specific receptors are usually expressed codominantly.

Allergen: An antigen responsible for producing allergic reactions by inducing IgE formation.

Allergy: A term covering immune reactions to non-pathogenic antigens, which lead to inflammation and deleterious effects in the host.

Allogeneic: Having a genetic dissimilarity within the same species.

Allograft: A tissue transplant (graft) between two genetically nonidentical members of a species.

Allotypes: Antigenic determinants that are present in allelic (alternate) forms. When used in association with immunoglobulin, allotypes describe allelic variants of immunoglobulins detected by antibodies raised between members of the same species.

Alternate (Alternative) pathway: The mechanism of complement activation that does not involve activation of the C1, C4, C2 pathway by antigen-antibody complexes, and begins with the activation of C3.

Exhibit A

Constant region (C region): The invariant carboxyl-terminal portion of an antibody molecule, as distinct from the variable region which is at the amino-terminal of the chain.

Coombs' test: A test named for its originator, R.R.A. Coombs, used to detect non-agglutinating antibodies on red blood cells by addition of an anti-immunoglobulin antibody.

Cross-reactivity: The ability of an antibody, specific for one antigen, to react with a second antigen; a measure of relatedness between two different antigenic substances.

Cytokines: Soluble substances secreted by cells, which have a variety of effects on other cells, e.g. Interleukin 1 (Il-1).

Cytotoxic (Cytolytic) T cell: Cell that kills target cells bearing appropriate antigen within the groove of an MHC class I molecule that is identical to that of the T cell.

D gene: A small segment of immunoglobulin heavy-chain and T-cell receptor DNA, coding for the third hypervariable region of most receptors.

Delayed type hypersensitivity (DTH): A T cell-mediated reaction to antigen, which takes 24-48 hours to develop fully, and which involves release of lymphokines and recruitment of monocytes and macrophages. Also called c cell-mediated immunity.

Determinant: Part of the antigen molecule which binds to an antibody-combining site or to a receptor on T cells (see hapten and epitope).

Differentiation antigen: A cell surface antigenic determinant found only on cells of a certain lineage and at a particular developmental stage; used as an immunologic marker.

Domain: A compact segment of an immunoglobulin molecule, made up of about 110 amino acids around an S-S bond, and encoded by a unique segment of DNA, surrounded by nontranslated sequences.

DR antigens: MHC class II molecules found on B cells and antigen-presenting cells of humans.

Enhancing antibodies: Antibodies which enhance the survival of a graft or of a tumour.

Enzyme-linked immunosorbent assay (ELISA): An assay in which an enzyme is linked to an antibody and a coloured substrate is used to measure the activity of bound enzyme and, hence, the amount of bound antibody.

Eosinophil: A polymorphonuclear leukocyte with large eosinophilic (i.e. red) cytoplasmic granules.

Eosinophil chemotactic factor of anaphylaxis (ECF-A): A substrate released from mast cells during anaphylaxis which attracts eosinophils.

Epitope: An alternative term for antigenic determinant.

Equivalence zone: In a precipitin reaction, the region in which the concentration of antigen and antibody leads to maximal precipitation.